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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,321	08/25/2000	Thomas Garoff	0696-0171P	4182

2292 7590 03/12/2003

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EXAMINER

BROWN, JENNINE M

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 03/12/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/582,321

Applicant(s)

GAROFF ET AL.

Examiner

Jennine M. Brown

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 29-31 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). Should the claims state a method of using the previously claimed catalyst composition and clearly state method steps, Examiner would consider those claims a proper definition of process.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-31 provides for the use of a complex prepared according to claims 10-28, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. The titanium complex used is not claimed as part of the

catalyst or process therefore it would seem that a co catalyst does not exist as part of the catalyst or process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2, 4-6, 10-14, 16-19, 21-22, 24-26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Miya, et al. (US 5100849).

Miya, et al. teach $MgCl_2$ reacted with an alcohol having 1-10 carbon atoms, $TiCl_4$ and electron donating phthalate compound (col. 3, l. 9 – col. 4, l. 49; Examples 1-5, Comparative Examples 1-4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kioka, et al. (US 6235854).

Kioka, et al. teach a process and complex comprising $MgCl_2$ as well as $Mg(OR)_2$ having temperature ranges for contact with polybasic carboxylic acid ester between $-70^{\circ}C$ to $200^{\circ}C$ and mole parts of 0.01-5 for the magnesium and titanium compound where electron donating group is 1:1 with the magnesium compound (col. 3, l. 45 – col. 4, l. 65; col. 5, l. 1-3, 45-50, 61-64; col. 6, l. 10-17, 35-45; col. 7, l. 10-12, 21-55; col. 7, l. 57 – col. 8, l. 60; col. 9, l. 27-52; col. 10, l. 5-7, 10-12, 18-20, 48; col. 11, l. 33-53; col. 12, l. 1-40; col. 24, l. 2 – col. 26, l. 11).

Kioka, et al. do not specifically teach that the polybasic carboxylic acid ester is o-phenylene. It would have been obvious to one of ordinary skill in the art to modify the

polybasic carboxylic acid ester to be soluble in the catalytic process so that it would react properly with the magnesium compound and since it is a phthalic acid dialkyl ester with 1-20 carbon atoms, it would be one possibility in a list of possible compatible compounds to use for the process.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9 and 10-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-44 of U.S. Patent No. 6420499. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims a catalyst and process of making said catalyst containing magnesium dihalide, an electron donor, halogen compound and a titanium halide compound. The process claimed reacts the magnesium dihalide compound and the electron donor compound whereby that product is reacted with the halogen compound. The product of the previously stated compound

is then reacted with the titanium halide compound. The claimed titanium halide compound preferred is TiCl_4 . The claimed electron donor compound preferred is o-phenylene $[\text{Ph}(\text{COOR})_2]$. The claimed magnesium dichloride alcohol complex preferred is $\text{MgCl}_2(\text{ROH})_m$. A magnesium dichloride-dimagnesium dialkoxide complex is also claimed. The claimed catalyst is for alpha olefin polymerization. X-ray diffraction pattern dominant peaks are claimed.

The patent does not specifically claim an IR spectrum showing the C=O Metal bond. Although the patent does not claim an IR spectrum showing the metal ligand binding characteristics, it would have been obvious to one of ordinary skill in the art to assume that the C=O bond would have an IR transition band which would be shifted from normal because of the electronic pull from the metal.

The patent does not specifically claim the process characterized by molar ratios between the magnesium dichloride to alcohol with a temperature range and reaction time. Although the patent does not claim the ratios between the alcohol or alkoxy and the magnesium dichloride, it would have been obvious to one of ordinary skill in the art to assume that the ratio would range between 1:1 and 1:8 because of the number of potential coordination sites of the magnesium. It would have been obvious to one of ordinary skill in the art that the temperature and reaction time are related and the upper and lower limits of temperature will be between the degradation of the magnesium dichloride alcohol or alkoxy complex and the minimal temperature for the reaction to occur.

Claims 1-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. 6200923. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims a catalyst and process of making said catalyst containing magnesium dihalide, an electron donor, halogen compound and a titanium halide compound. The claimed titanium halide compound preferred is TiCl_4 . The claimed electron donor compound preferred is o-phenylene $[\text{Ph}(\text{COOR})_2]$. The claimed magnesium dichloride alcohol complex preferred is $\text{MgCl}_2 \cdot (\text{ROH})_m$. X-ray diffraction pattern dominant peaks are claimed. Mole ratios and ideal temperature ranges are claimed for the process of preparing the catalyst.

The patent does not specifically claim an IR spectrum showing the C=O Metal bond. Although the patent does not claim an IR spectrum showing the metal ligand binding characteristics, it would have been obvious to one of ordinary skill in the art to assume that the C=O bond would have an IR transition band which would be shifted from normal because of the electronic pull from the metal.

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5710229 teaches an alpha olefin catalyst composition and process comprising magnesium dichloride, a lower alcohol, a titanium tetrachloride and a phthalic acid ester where the composition is heated between 130° and 140° C.

US 5767215 teaches an alpha olefin catalyst composition and process comprising magnesium dichloride, a lower alcohol, a titanium tetrachloride and a phthalic acid ester, phenylene, where the composition is heated between 130° and 140° C.


US 5188999 teaches process and supported catalyst of magnesium dichloride, n-butyl alcohol, electron donor (esters, oxyacids, ethers, aldehydes) and $TiCl_4$ for olefin polymerization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (703) 305-0435. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 879-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jmb
March 3, 2003


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700